



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/621,700 | 07/17/2003 | Bruce Gordon Ramsay | 99A429 (DIV) | 1513 |

7590 06/11/2007
Philip H. Von Neida
The BOC Group, Inc.
Legal Services-Intellectual Property
100 Mountain Ave.
Murray Hill, NJ 07974

| |
|----------|
| EXAMINER |
|----------|

STOUFFER, KELLY M

| | |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

1762

| | |
|-----------|---------------|
| MAIL DATE | DELIVERY MODE |
|-----------|---------------|

06/11/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/621,700

Applicant(s)

RAMSAY, BRUCE GORDON

Examiner

Kelly Stouffer

Art Unit

1762

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-29, 32, 33 and 36-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 33 is/are allowed.
- 6) ☒ Claim(s) 17-29, 32, and 36-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 8 May 2007 have been fully considered but they are not persuasive.

The applicant argues that the Supplemental Declaration filed 21 August 2006 under 37 CFR 1.131 is sufficient to establish attorney diligence. The Supplemental Declaration has been considered but is ineffective to overcome the Ryan et al. reference. According to *Bey v. Kollonitsch*, 866 F.2d 1024, 231 USPQ 967 (Fed. Cir. 1986), if the attorney has a reasonable backlog of unrelated cases which he takes up in chronological order and carries out expeditiously, that is sufficient to establish reasonable diligence of the attorney. The declaration does not establish that the backlog of applications was taken up diligently and in chronological order; therefore there is insufficient evidence to establish reasonable diligence. The examiner is not applying the standard that the application must have been worked on continuously. The declaration should establish that the backlog of applications was taken up diligently and in chronological order as is established by the courts. The declaration additionally does not establish or provide evidence showing that the ten other cases the attorney worked on were related to the instant application.

The other arguments were fully considered by the examiner and will be answered in the following paragraphs. However, it is noted by the examiner that only arguments related to the scope of the claims will be answered here. It is dually noted that even

Art Unit: 1762

though Ryan et al. may teach other embodiments throughout the document, this does not affect the anticipation of the claims in the instant application, as is discussed below.

The Applicant argues that Ryan et al. does not teach all of the limitations of independent claim 17. Ryan et al. discloses (in columns 2 and 3 lines 42-17) a method of transferring articles into and out of a vacuum-processing chamber through a load lock chamber. The load lock chamber of Ryan et al. is inherently formed, at least as broadly as it is cited in the claims and specification, because at some point during experimentation and reducing the invention to practice in Ryan et al. it must be assembled and attached to the chamber. The load lock chamber is formed around an opening through a wall of an enclosure (this is describing that the load lock chamber is attached to the chamber by an opening through the wall of the transfer chamber – the enclosure - as shown in the Figures) by an article supporting surface that is sealed to the inside of the wall around the opening (either the pins or the round support structures of Ryan et al. in the Figures – they would have to be sealed to the inside of the wall around the opening somehow, even if they moved, as they are connected to the wall and must be wired to move the wafer electronically – at least as broadly as this recitation is recited in the claims) and a cover that is sealed to the outside of the wall around the opening (shown in the Figures as the ring valve and described in the above cited section, additionally, something of the sort must be present because without it vacuum and the benefit of Ryan et al. of reducing contamination between chambers could not occur, at least how the limitation is written. One of ordinary skill in the art would recognize that a ring valve extends outside the chamber, also shown in the

Art Unit: 1762

Figures. Also see the disclosure of a cove in column 8 et seq.) The processing chamber is formed within remaining portions of the enclosure as shown in the Figures. The remainders of the process limitations are given in the above-cited section (in columns 2 and 3 lines 42-17).

As for dependent claim 24, Ryan et al. discloses moving the article supporting surface with articles thereon with a movement that may be considered lateral, at least as broadly as it is described, between the load lock chamber and the processing chamber as shown in Figure 9B

As for independent claim 26, the Figures in 9A-9D show the wafers rotating in an elliptical path relative to one another. Therefore, they would be rotated by moving towards each other on the smaller parts of the ellipse and away from each other on the longer parts of the ellipse, especially as shown as expanded in Figure 9A, contracted in Figure 9C, and returning to their expanded position in Figure 9D. See also column 11 lines 28-46.

As for independent claim 36, even if the wafer rests on the U shaped effectors of the transfer arm, it is still connected to the transfer arm as broadly as it is recited in the claim. However, Ryan et al. does not disclose that the wafers simply rest on the U shaped effectors. To the contrary, one of ordinary skill in the art would realize that if the wafers weren't connected to the transfer arm somehow, they would fall off, especially when rotated in the manner shown in Figures 9A-9D.

As for independent claim 37, the neutral location described by the applicant moves articles to a separate exchange location within the vacuum chamber, as is

Art Unit: 1762

described in the applicants' cited sections and is shown as a part of the vacuum chamber in Figure 3 and described as a transfer chamber in column 8 lines 23-64.

As for independent claim 38, the transfer arm with its U shaped effectors may be considered a carriage at least as it is broadly cited in the claim. Additionally, the movement of the wafer and the transfer arm may be considered horizontal depending upon one's frame of reference in Figures 9A-9D. Further, the pins of Figure 3 would also meet these limitations. Because the arguments foregoing arguments filed 8 May 2007 were not found convincing, the rejections of the previous office action are maintained and repeated here in their entirety.

As for independent claims 32 and 33, the applicant's arguments were convincing. The rejection to this claim in view of the amendment is withdrawn. However, new grounds of rejection under 35 USC 112 2nd paragraph for claim 32 appear below, necessitated by amendment.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 32 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 32 recites the limitation "the domed surface". There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 17-19, 24-26, 30, and 36-38 are rejected under 35 U.S.C. 102(e) as being anticipated by Ryan et al. (US 6,429,139 B1).

Ryan teaches the limitations of using the load lock chamber in the claimed manner (column 2, line 42 to column 3, line 17). The claimed limitations of moving the substrates simultaneously in a manner in which the wafers are brought closer together then rotated 180 degrees is taught (column 11, lines 29-45). All other limitations are taught within these cited paragraphs or are taught in the claims section.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 20-23, and 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ryan et al. (US 6,429,139 B1), as applied to claims above, and further in view of Nishida et al. (US 4,226,208).

Ryan teaches the limitations above, but is silent to using a carrier dome. However, Nishida teaches that using a carrier dome allows for coating multiple wafers simultaneously (abstract). Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to use a carrier dome in the process taught by Ryan. By doing so, multiple wafers may be coated simultaneously.

Allowable Subject Matter

5. Claim 33 is allowed. Claim 32 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action. Neither references, alone or in combination, teach moving the wedge shaped pieces sequentially and one at a time to transfer entire wedges at once.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 1762

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kelly Stouffer whose telephone number is (571) 272-2668. The examiner can normally be reached on Monday - Thursday 7:00-5:30.

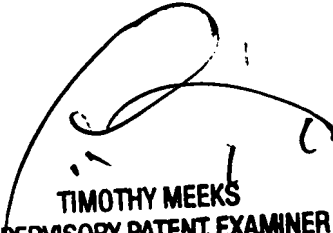
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1762

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kelly Stouffer
Examiner
Art Unit 1762

kms



TIMOTHY MEEKS
SUPERVISORY PATENT EXAMINER